

BASIC STEPS OF TIRE REPAIR



WARNING

Serious eye or ear injuries may result from not wearing adequate eye (goggles or face shields) and ear protection while repairing tires.

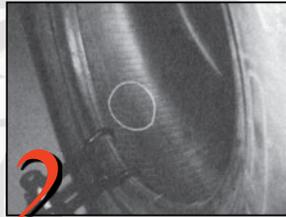
The Three Basic Steps for Puncture Repairing are:

- (1) removing the tire from the wheel for inspection and repair,
- (2) filling the injury to keep moisture out, and
- (3) sealing the innerliner with a repair unit to prevent air loss.



1 EXTERNAL INSPECTION

Prior to demounting, check tire surface and the valve for the source of the leak(s) by using water or a soap solution. Mark the injured area and totally deflate the tire. Then carefully remove the tire from the wheel to avoid further damage to the tire, particularly to the bead area. Place on a well-lighted spreader.



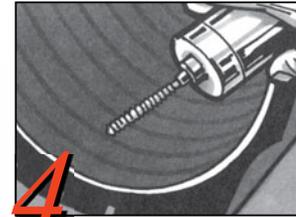
2 INTERNAL EXAMINATION

Spread the beads and mark the puncture with a tire crayon. Remove the nail or puncturing object noting the direction of penetration. Probe the injury with a blunt awl to determine the extent and direction of the injury and remove any loose foreign material. Injuries exceeding ¼" must not be repaired in other than a full-service repair facility. Inspect for any other internal damage.



3 CLEANING

Clean the area around the puncture thoroughly with a proper liner cleaner. Use a clean cloth and/or scraper. Do not use gasoline - use may cause serious injury. This step serves to remove dirt and mold lubricants which can impair repair unit adhesion and contaminate buffing tools. Consult your local repair materials supplier for a proper cleaner.*



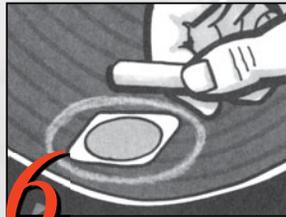
4 CLEAN INJURY CHANNEL

Use a proper hand reamer, carbide cutter, or drill bit (1,200 rpm max.) to ream the puncture channel from the inside of the tire to clean the injury. Remove steel wires protruding above the liner surface to prevent damage to the repair unit.



5 FILL INJURY

(Use compatible repair materials.) Cement the puncture channel and fill the injury from the inside of the tire with a suitable vulcanizing material or a rubber plug. Without stretching the plug cut the material off just above the inside tire surface. It is necessary to fill the injury to provide a backup for the repair unit and to prevent rusting of the steel wires or deterioration of fabric. For combination repair/plug units skip this step.



6 REPAIR UNIT SELECTION

Center the repair unit over the injury and outline an area larger than the unit, so buffing will not remove the crayon marks. If multiple repairs are made, repair units must not overlap. Repair materials must be selected from those recommended for the construction (radial or bias) and tire inflation pressure. Some light truck tires operate at a higher inflation pressure than passenger tires and require a different repair unit. Consult your repair material supplier or tire manufacturer for repair unit selection.



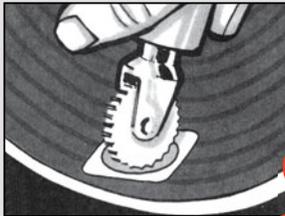
7 BUFFING

To prevent contamination and preserve the outline, buff within the marked area thoroughly and evenly with a low speed (5,000 rpm max.) fine wire brush or gritted rasp. Buff to a smooth velvet surface (RMA #1 or #2 buffed texture** for chemical vulcanizing repairs). Take care not to gouge the innerliner or expose casing fabric. Remove any buffing dust with a vacuum cleaner.



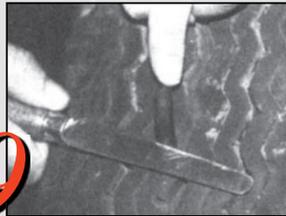
8 CEMENTING

Apply chemical cement* according to repair manufacturer's procedures. Allow the cement to dry thoroughly.



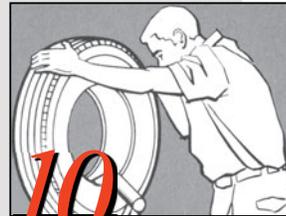
9 REPAIR UNIT APPLICATION

The tire must be in a relaxed position when the repair unit is installed. (Do not spread the beads excessively.) If applicable, install the unit so that the alignment is correct. Center the repair unit over the injury and stitch down thoroughly with a stitching tool, working from the center out. Being careful not to stretch the plug, cut the material flush with the outer tread surface.



10 FINAL INSPECTION

For combination repair/plug units, pull the plug through the injury until the repair just reaches the liner, then stitch. Remove and discard the protective covering. Follow manufacturer's recommendations for further installation instructions.



10 FINAL INSPECTION

(For tube-type tires be sure to use a properly repaired or new tube to replace a damaged tube.) After remounting and inflating, the tire, both beads, the repair, and the valve must be checked with water or a soap solution to detect leaks. If the tire continues to lose air, it must be removed from the wheel for complete reinspection.

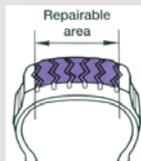
CAUTION

Regardless of the type of repair used, the repair must seal the innerliner and fill the injury.

*Refer to information on the product or manufacturer's Material Safety Data Sheet and follow guidelines for handling and disposal.

**See RMA Shop Bulletin No. 29 available from the address below.

Rubber Manufacturers Association
1400 K Street, N.W.
Washington, DC 20005-2403



These Procedures are limited to tread area only.

Speed Ratings – Tire Manufacturer should be consulted for its individual repair policy.

NEVER repair tires worn to treadwear indicators (2/32" remaining tread depth).

NEVER repair tires with a tread puncture larger than ¼". Injuries larger than ¼" or

with exposed fabric must be referred to a full-service repair facility.

NEVER substitute an inner tube for a permissible or non-permissible repair.

NEVER perform an outside-in tire repair (on the wheel).

NEVER disregard Tire Mounting Safety Warnings.